

C4 8.8 (at 25°C); 15 mM (NH₄)₂SO₄; 7 mM MgCl₂; 10 mM 2-mercaptoethanol; 200 µM each of dATP, dGTP, dCTP and dTTP; 0.1% NONIDET P40™

(Ethylphenolpoly(ethyleneglycolether)_n, 0.1% THESIT™

(Dodecylpoly(ethyleneglycolether)_n); 25 µg DNase treated calf thymus DNA. 15 µl samples were taken at 0, 5, 10, 15, 30, 45, 60 and 120 minutes. The remaining polymerase activity was measured as described in example IV by determining incorporation of labeled ³H-TTP into DNA in a 50 µl volume of the incubation mixture described above containing in addition 150 nCi of ³H-TTP. After incubation at 72°C for 30 minutes the reactions were stopped by addition of 300 µl 10 % TCA, and after 10 minutes at 0°C the mixtures were applied onto 3MM filters (Whatman). The filters were washed three times with approximately 10 ml 5 % TCA each time, dried for 10 minutes at 75°C and the DNA bound radioactivity of each filter was measured in 5 ml scintillation liquid in a scintillation vial in LKB rack beta 1217/1218 (Pharmacia).--

IN THE CLAIMS

Marked up copies of the following amended claims are attached hereto as Exhibit B. Please cancel Claims 1, 2, 11-13, 15, 16 and 23-25 without prejudice. Please amend Claims 3, 5 and 7 to read as follows:

C5 1x (Twice amended) A purified thermostable DNA polymerase obtainable from *Thermococcus gorgonarius* which catalyzes the template directed polymerization of DNA, possesses 3'-5'-exonuclease (proofreading) activity and is characterized by at least two-fold greater replication fidelity than DNA polymerase obtainable from *Pyrococcus furiosus*, wherein said polymerase retains about 90 % of its activity after incubation for two hours at about 95°C in the presence of a stabilizer and wherein said polymerase has an apparent molecular weight between about 92 000 to 96 000 daltons.

C6 2x (Twice amended) A stabilized composition comprising a polymerase as claimed in Claim 3 and a stabilizer.

C7 4x (Twice amended) The composition according to Claim 6 wherein dodecylpoly(ethyleneglycolether)_n and/or ethylphenolpoly(ethyleneglycolether)_n serve as a stabilizer.